

# Liberty University School of Aeronautics

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# Pilot / Mechanic Forecast

- Needed: 648,000 new airline mechanics over the next 20 years
- Needed: 637,000 new airline pilots worldwide over the next 20 years (117,000 in North America) -- unprecedented in magnitude & duration
- Continued reduction of air service in the U.S. due to shortage of pilots
- U.S. Air Force Chief of Staff called the pilot shortage critical
- Over 50% of pilots flying by 2027 have not yet started to train
- Rand Corp: tens of thousands of rated pilots needed for UAS
- **Rand Corp: without a viable solution: 15% air service loss; lose 1 million jobs; \$750B loss in economic activity**

# Demand pull

- Airlines are actively recruiting and offering bonuses and incentives
- Military has gone critical and is now sitting with the aviation industry to develop solutions to the pilot and mechanic shortage
- Growing need for qualified UAS operators and maintainers
- Civilian training capacity exists, but challenges are growing
  - Next shortage will be at the flight instructor level
  - Need for marketing careers in aviation – **sure paths to good jobs**
  - Need to overcome the **perceptions and realities** of high training costs
  - Large portion of the population untapped – **women and racial minorities**

# Upstream focus – education and training

- Changes to the environment have reduced interest in a pilot career
  - Industry challenges – economy ups and downs
  - Training challenges – high training costs / low start pay
  - Security changes after 9-11
  - Demographics – perception: women and racial minorities don't fly
- Career interest development begins in middle school on average
- Need more STEM programs in high school that include aviation / aerospace, but teachers are not equipped / do not know the industry
- Numerous individual private pilot programs for high school students
- Aircraft maintenance programs in high schools
- **High school students who fly airplanes / UAVs – it catches on**

# Liberty University's High School Program

- New Horizons program: introduce high school students to aviation
- Summer Camps
  - **Aviation camps** – 6-day overnight camp
  - **Solo Camps** – solo an aircraft in less than 10 days, less than 10 flight hours
  - **High School Private Pilot Course**
- Fall/Spring
  - Dual enrollment courses
  - Ground schools
  - Private Pilot Courses
- Civil Air Patrol support and hosting
- JROTC collaboration
- **Grant searches to provide scholarships to promising students – focus on URMs**

# Liberty University – School to Job

- Aircraft maintenance – Airframe and Powerplant (A&P) License
  - Starting pay: varies, but generally > \$45,000/Year, & increases at good rate
  - Various types of A&P schools providing FAA certification training
  - Liberty University has a one-year A&P program with good job placement
- Professional Pilot
  - Collegiate programs prepare students for jobs as airline pilots, corporate pilots, military pilots, and other types of professional pilot careers
- Unmanned Aerial System Operator
  - Collegiate programs prepare students for jobs in the UAS industry
- Aviation Management/Administration Careers
  - Airport Ops, Airline Ops, Manufacturers, Gov't, NGOs, small & large businesses
- **LU Aviation Program: Top 3 in number of professional pilot students**
  - **Partnered with 52 flight schools around the U.S., 6 of them in Virginia**
  - **Selected as best collegiate aviation program in the U.S. at NIFA Nationals 2017**

# Solutions

- Collegiate programs are expanding and growing in all fields of aviation
- Need to keep control of costs – no added costs/fees
  - Aviation education and training schools operate on thin margins...and passion
- Vocational funding programs
  - Civilian training grants
  - Teacher training – aviation / UAS / aerospace in general
  - Specialized loans / expansion of current loans and grants
  - Middle school and high school STEM programs – aerospace focus
- **Marketing – send young professional aviators to the schools**
- **Virginia – an aerospace/aviation state**